Cascade Chemistries

COLLOIDALCHEM +ANCHOR™

WHAT IS COLLOIDALCHEM +ANCHOR?

ColloidalChem +Anchor is a special formulation of our activated carbon product, ColloidalChem. It integrates a patented enzyme-based technology that ensures highly mobile colloidal solids are precipitated from groundwater and retained within a permeable reactive barrier after injection is complete.

HOW DOES IT WORK?

A remediation colloid, stabilized by a non-toxic biopolymer and mixed with a slow-acting enzyme, is injected into the subsurface. The enzyme breaks down the stabilizing polymer, rendering the remediation chemical particles immobile.

Advantages for distribution, contact & residence time

Liquid solutes, colloidal solids, and emulsions are mobile in groundwater, which enables effective emplacement by injection—but if groundwater flow is significant, treatment chemicals can inadvertently migrate over time. The anchoring technology in this product ensures it remains in the intended barrier zone.

Benefits of activated colloidal carbon

- Effective colloid transport for barrier construction by injection
- Rapid barrier immobilization after injection
- Better contact and performance than PAC (>25 micron particle size) fracturing
- Prevents particles from getting into downgradient wells and interfering with closure monitoring
- Sustainable reductions over time within the permeable reactive barrier
- Lower life cycle costs than pump and treat.

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For more information, visit www.cascade-env.com/cascade-chemistries

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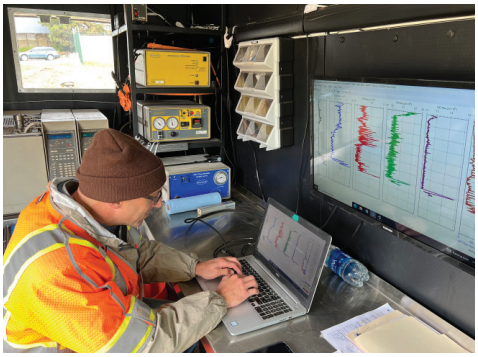

TURNKEY SOLUTIONS

While effective chemistries are a key part of successful remediation solutions, Cascade's turnkey solution meets the overall in situ remediation objective "to make contact with contaminant mass for a long enough period of time to achieve destruction." Cascade adds significant value and higher performance to the application its Chemistries by providing:

- High resolution design optimization through our MIHPT and Waterloo^{APS} subsurface technologies to identify target zones based on mass, lithology, and hydraulic conductivity.
- Bench-scale and column testing as needed.
- Advanced automated injection and fracturing technologies for both liquids and solid slurries.
- Client design support for chemistry dosing and critical injection parameters, including spacing and injection volumes and concentrations based on geology and hydraulic conductivity.
- Water hydraulics testing and field design optimization to eliminate any full-scale unexpected conditions.

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